

What is claimed is:

1. An improved ultrasonic cleaner assembly for irradiated nuclear fuel assemblies, comprising:

a housing assembly for receiving a fuel assembly; and

a flow diverter assembly operatively connected to the housing assembly for switching a flow path between a fuel pool and a suction line to a filter and pump assembly, wherein the flow diverter assembly establishes a flow path with a fuel pool when in a by-pass position, and wherein the flow diverter assembly establishes a flow path with the suction line to the filter and pump assembly when in an engaged position.

2. The ultrasonic cleaner assembly according to claim 1, wherein the flow diverter assembly comprises:

a fixed outer member;

a spring biased movable member, wherein the movable member is movable within the fixed outer member between the by-pass position and the engaged position.

3. The ultrasonic cleaner assembly according to claim 2, wherein the spring biased movable member moves from the by-pass position to the engaged position in response to a force applied by the fuel assembly.

4. An ultrasonic cleaner assembly according to claim 2, wherein the materials of the movable member and the fixed outer member are selected to prevent galling.

5. An improved ultrasonic cleaner assembly comprising:

- a first housing assembly for receiving a first fuel assembly;
- a first flow diverter assembly operatively connected to the first housing assembly for switching a flow path between a fuel pool when in a by-pass position and a suction line to a filter and pump assembly when in an engaged position;
- a second housing assembly for receiving a second fuel assembly,
- a second flow diverter assembly operatively connected to the second housing assembly for switching a flow path between the fuel pool when in a by-pass position and the suction line to the filter and pump assembly when in an engaged position.

6. The ultrasonic cleaner assembly according to claim 5, wherein each flow diverter assembly comprises:

- a fixed outer member;
- a spring biased movable member, wherein the movable member is movable within the associated fixed outer member between the by-pass position and the engaged position.

7. The ultrasonic cleaner assembly according to claim 6, wherein each spring biased movable member moves from the by-pass position to the engaged position in response to a force applied by the corresponding fuel assembly.

8. The ultrasonic cleaner assembly according to claim 6, wherein the materials of the movable member and the fixed outer member are selected to prevent galling.

9. The ultrasonic cleaner assembly according to claim 5, wherein both flow diverters open slightly to allow some bypass flow when both housing assemblies are empty.

10. The ultrasonic cleaner assembly according to claim 6, wherein both flow diverters open slightly to allow some bypass flow when both housing assemblies are empty.

11. The ultrasonic cleaner assembly according to claim 7, wherein both flow diverters open slightly to allow some bypass flow when both housing assemblies are empty.

12. The ultrasonic cleaner assembly according to claim 8, wherein both flow diverters open slightly to allow some bypass flow when both housing assemblies are empty.

13. A flow diverter assembly comprising:  
a fixed outer member;  
a spring biased movable member, wherein the movable member is movable within the fixed outer member between a by-pass position and an engaged position, wherein the movable member moves from the by-pass position to the engaged position in response to application of a load on the movable member.

14. The flow diverter assembly according to claim 13, wherein the spring biased movable member moves from the by-pass position to the engaged position in response to locating an object on the movable member.

15. The flow diverter assembly according to claim 13, wherein the materials of the movable member and the fixed outer member are selected to prevent galling.